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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/666,090
Filing Date	September 19, 2003
First Named Inventor	Robert C. Lam et al.
Art Unit	1771/Conf. #8977
Examiner Name	Peter Y. Choi
Attorney Docket Number	02074/BW02091

ENCLOSURES *(Check all that apply)*

- [X] Fee Transmittal Form
  - [X] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
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- [ ] After Allowance Communication to TC
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- [✓] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [✓] Other Enclosure(s) (please Identify below):
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Emch, Schaffer, Schaub & Porcello Co., L.P.A.		
Signature	P A Pacella		
Printed name	Patrick P. Pacella		
Date	October 26, 2007	Reg. No.	25,463

CERTIFICATE OF TRANSMISSION/MAILING

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Signature	Kathy Burgess		
Typed or printed name	Kathy A. Burgess	Date	10-26-07

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/17 (10-07)
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Effective on 12/08/2004.
Fees Pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2008

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	510.00

Complete if Known	
Application Number	10/666,090
Filing Date	September 19, 2003
First Named Inventor	Robert C. Lam et al.
Examiner Name	Peter Y. Choi
Art Unit	1771/Conf. #8977
Attorney Docket No.	02074/02091

METHOD OF PAYMENT (check all that apply)

☐ Check ☑ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 15-0825 Deposit Account Name: Owen & Owen

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	310	155	510	255	210	105	
Design	210	105	100	50	130	65	
Plant	210	105	310	155	160	80	
Reissue	310	155	510	255	620	310	
Provisional	210	105	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	210	105
Multiple dependent claims	370	185

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 20 or HP =	_____ x	_____ =	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 3 or HP =	_____ x	_____ =	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims Fee ($)	Multiple Dependent Claims Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $260 ($130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____ / 50 =	_____ (round up to a whole number) x	_____ =	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Appeal Brief	510.00

SUBMITTED BY

Signature	Registration No. (Attorney/Agent) 25,463	Telephone 419-243-1294
Name (Print/Type) Patrick P. Pacella		Date Oct 26, 2007

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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OIPE BAP21
OCT 26 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Robert C. Lam et al. — Exr. Peter Y. Choi
Serial No: 10/666,090 — Art Unit: 1771
Filed: September 19, 2003 — Confirmation No.: 8977
For: HIGH COEFFICIENT FRICTION MATERIAL WITH SYMMETRICAL FRICTION MODIFYING PARTICLES

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

October 24, 2007

APPELLANTS' BRIEF ON APPEAL

Sir:

This brief on appeal is being filed in accordance with 37 C.F.R. §1.192 by Appellant in the matter of the above-identified patent application.

REAL PARTY IN INTEREST

The real in interest is BorgWarner, Inc., 3850 Hamlin Road, Auburn Hills, MI 48326, the assignee of the present application.

10/29/2007 EAYALEW1 00000051 10666090
01 FC:1402 510.00 OP

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affect or be directly affected by having a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

This appeal is based on the final rejection of claims 1 – 3, 7 – 10, 12 – 17 and 28. Claims 4 – 6, 11, 18 – 27 and 29 – 30 are canceled. Only claims 1 – 3, 7 – 10, 12 – 17 and 28 are pending in the application.

STATUS OF AMENDMENTS

A Response After Final Rejection was filed on September 17, 2007. Only Remarks were presented in the Response After Final. The claims were not amended. Only claims 1 – 3, 7 – 10, 12 – 17 and 28 remain in the application. No amendments have been filed subsequent to the appealed final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

Claims 1, 9 , 13, 16 and 28 are independent claims.

Claim 1 recites a friction material comprising a base material impregnated with at least one curable resin (page 7, lines 9 – 10). The base material comprises

i) a porous primary layer comprising a fibrous base material (page 7, lines 10 – 11), and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material (Page 7, lines 12 – 14). The material of the primary layer holds the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer (Page 7, lines 14 – 15). The secondary layer comprises a mixture of carbon particles and symmetrically shaped silica particles, the carbon and silica friction modifying particles being present at about 0.2 to about 80%, by weight, based on the weight of the primary layer material (Page 7, lines 17 – 21). The secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, and about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particles (Page 31, lines 14 – 17).

Claim 9 recites a friction material comprising a base material impregnated with at least one curable resin (page 7, lines 9 – 10). The base material comprises i) a porous primary layer comprising a fibrous base material (page 7, lines 10 – 11), and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material (Page 7, lines 12 – 14). The material of the primary layer holds the geometrically symmetrically shaped friction modifying particles on the surface of

the porous primary layer (Page 7, lines 14 – 15). The secondary layer comprises a mixture of symmetrically shaped diatomaceous earth particles and fully carbonized carbon particles or partially carbonized carbon particles, and mixtures thereof (Page 31, lines 5 – 8). The carbon and symmetrically shaped silica friction modifying particles being present at about 0.2 to about 80%, by weight, based on the weight of the primary layer material (Page 7, lines 17 – 21). The secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, and about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particles (Page 31, lines 14 – 17).

Claim 13 recites a friction material comprising a base material impregnated with at least one curable resin (page 7, lines 9 – 10). The base material comprises i) a porous primary layer comprising a fibrous base material (page 7, lines 10 – 11), and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material (Page 7, lines 12 – 14). The material of the primary layer holds the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer (Page 7, lines 14 – 15). The secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, based on the total weight of the friction modifying particles (Page 31, lines 14 – 17). The friction modifying particles comprised symmetrically shaped

diatomaceous earth (Page 31, lines 22 – 23).

Claim 16 recites a friction material comprising a base material impregnated with at least one curable resin (page 7, lines 9 – 10). The base material comprises i) a porous primary layer comprising a fibrous base material (page 7, lines 10 – 11), and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material (Page 7, lines 12 – 14). The material of the primary layer holds the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer (Page 7, lines 14 – 15). The secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped particles, based on the total weight of the friction modifying particles (Page 31, lines 14 – 17). The friction material is impregnated with a mixture of a phenolic resin and a silicone resin wherein the amount of silicone resin in the mixture ranges from approximately 5 to approximately 80%, by weight, based on the weight of the mixture, and optionally, wherein the phenolic resin is present in a solvent material and the silicone resin is present in a solvent material which is compatible with the solvent material of the phenolic resin (Page 8, liens 20 – 26 and Page 32, lines 1 – 7).

Claim 28 recites a friction material comprising a base material impregnated with at least one curable resin (page 7, lines 9 – 10). The base material comprises

i) a porous primary layer comprising a fibrous base material (page 7, lines 10 – 11), and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material (Page 7, lines 12 – 17). The material of the primary layer holds the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer (Page 7, lines 14 – 15). The secondary layer comprises symmetrically shaped silica particles, being present at about 0.2 to about 80%, by weight, based on the weight of the primary layer material (Page 7, lines 17 – 21). The geometrically symmetrically shaped friction modifying silica particles have a substantially flat disc shape (Page 17, lines 6 – 13).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1 – 3, 7 – 10, 12 – 17 and 28 comply with the enablement requirement under 35 U.S.C. §112, first paragraph.

Whether claims 1 – 3, 7 – 10, 12 – 17 and 28 are patentably distinct under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over EP 1203897 to Lam.

ARGUMENT

I. SUMMARY

Appellants' claims comply with the enablement requirement of 35 U.S.C. 112, first paragraph.

Figures 1a, 1b, 2b, 2c, 2d and pages 18 and 19 of the specification disclose geometrically symmetrically shaped particles suitable for the purpose of practicing the claimed invention.

Fig. 1a is a schematic illustration of a porous woven material having a layer of symmetrical shaped friction modifying material at least partially covering the surface of the porous woven material.

Fig. 1b is a schematic illustration of a porous woven material having a layer of symmetrical shaped friction modifying material fully covering the surface of the porous woven material.

Fig. 2b is a scanning electron microphotograph showing a porous woven material partially coated with symmetrically shaped friction modifying particles.

Fig. 2c is a scanning electron microphotograph showing a porous woven material partially coated with symmetrically shaped friction modifying particles.

Fig. 2d is a scanning electron microphotograph showing a porous woven material coated with symmetrically shaped friction modifying particles.

Pages 18 and 19 of the specification and the following Examples further enable the claims.

Appellants specification clearly is enabling for the claimed particles.

Claims 1 – 3, 7 – 10, 12 – 17 and 28 are patentably distinct in the recitation of the secondary layer comprising about 20% to about 35%, by weight, of symmetrically shaped silica particles, or about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle.

Nowhere odes Lam disclose or suggest this.

The Examiner states that the shape limitation is deemed to be inherent to the friction modifying particles.

Applicants respectfully submit that no basis in fact or theory exists to support this statement.

Nowhere does Lam disclose the combination of symmetrically shaped silica particles and carbon particles.

Nowhere does Lam disclose or suggest that the secondary layer comprises 20% to 35%, by weight, of symmetrically shaped silica particles, based on the total weight of the friction modifying particles.

Nowhere does Lam disclose or suggest that the secondary layer comprises 65% to 80%, by weight, carbon particles, based on the total weight of the friction modifying particles.

Inherency is a factual issue, and must be proven by clean and convincing evidence. The Examiner has failed to establish any factual basis to support his conclusion of inherency.

II. CLAIMS 1 – 3, 7 – 10, 12 – 17 AND 28 COMPLY WITH THE ENABLEMENT REQUIREMENT OF 35 USC §112, FIRST PARAGRAPH

Figures 1a, 1b, 2b, 2c, 2d, and pages 18 and 19 of the specification teach geometrically symmetrically shaped particles suitable for the purpose of practicing the claimed invention.

Appellants respectfully submit that the Examiner's conclusion ignores the facts of Appellants explicit disclosure.

Fig. 1a is a schematic illustration of a porous woven material having a layer of symmetrical shaped friction modifying material at least partially covering the surface of the porous woven material.

Fig. 1b is a schematic illustration of a porous woven material having a layer of symmetrical shaped friction modifying material fully covering the surface of the porous woven material.

Fig. 2b is a scanning electron microphotograph showing a porous woven material partially coated with symmetrically shaped friction modifying particles.

Fig. 2c is a scanning electron microphotograph showing a porous woven

material partially coated with symmetrically shaped friction modifying particles.

Fig. 2d is a scanning electron microphotograph showing a porous woven material coated with symmetrically shaped friction modifying particles.

Page 18 of the specification and the following Examples further enable the claims.

The usual friction modifying particles comprise a mixture of the geometrically symmetrically shaped friction modifying particles and at least one type of irregularly shaped friction modifying particles such as silica particles; resin powders such as phenolic resins, silicone resins epoxy resins and mixtures thereof; partial and/or fully carbonized carbon powders and/or particles admixtures thereof; and mixtures of such friction modifying particles. In particular, silica particles such as diatomaceous earth, Celite®, Celatom®, and/or silicon dioxide are especially useful. The silica particles are inexpensive organic materials which bond strongly to the fibrous materials. The silica particles provide high coefficients of friction to the friction material. The silica particles also provide the friction material with a smooth friction surface and provides a good "shift feel" and friction characteristics to the friction material such that any "shudder" is minimized.

Page 19 of the specification further provides enablement.

The geometrically symmetrically shaped friction modifying particles, while being relatively expensive, provide especially beneficial hot spot resistance and

high friction stability and durability to the friction material.

The inventors discovered that if the friction modifying particle size is too large or too small, the optimum three-dimensional structure not achieved and, consequently, the heat dissipation is not as optimum. The substantially symmetrical geometric shape, substantially symmetrical geometric shape, material preferably has a warp of about 40 – 50, and preferably about 44 – 46 yarns/inch, and a fill of about 35 – 45, and preferably about 38 – 40 yarns/inch. In certain embodiments, the woven material is woven or formed such that the warp and fill are relatively smooth or planar, with respect to each other. That is, the woven material, taking into consideration both the thickness of the strands and the weaving pattern itself, provides a relatively smooth friction material. In certain embodiments, the woven material has a surface smoothness of about 0.02 mm to about 0.2 mm Ra. The warp and fill define a plurality of indentations, or micropockets, which allow the friction modifying particles to be held on the surface of the woven material.

The specification clearly is enabling for the claimed particles.

The Examiner also states that the specification does not disclose a process to make the claimed geometrically symmetrically shaped friction modifying particles.

Appellants respectfully submit that the Examiner is adding to the

enablement requirement what is not required. This statement has no support in fact, theory or law.

The purpose of the claims and specification is not to explain the technology or how it works, but to state the legal boundaries of the patent grant. Appellants' claims and specification do this.

The patent claims and specification satisfy the statutory requirement as follows: If one skilled in the art would understand the bounds of the claims when read in light of the specification, then the claim satisfies section 112.

Appellants' claims and specification do this.

Section 112 requires that an inventor adequately set forth and describe, the manner and process of making and using the invention (the enablement requirement). To fulfill the enablement requirement, an application need not describe actual embodiments of examples. Nevertheless, the presence or absence of examples in a patent application is a factor in determining the extent to which claims, particularly broad claims involving an unpredictable technology, are enabled. What is important is that a person of ordinary skill in the art is able to practice the invention without undue experimentation. Johns Hopkins University v. Cellpro, Inc. 152 F.3d 1342, 1354 (Fed.Cir. 1998).

Clearly, Appellants specification complies with the enablement requirement.

III. CLAIMS 1 – 3, 7 – 10, 12 – 17 AND 28 ARE PATENTABLY DISTINCT UNDER 35 U.S.C. §102(b) OR UNDER 35 U.S.C. §103(a) OVER EP 1203897 TO LAM

Claims 1 – 3, 7 – 10, 12 – 17 and 28 patentably distinguish over Lam in the recitation of the secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, or about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle.

Nowhere does Lam disclose or suggest this.

The Examiner then states that the shape limitation is deemed to be inherent to the friction modifying particles.

Appellants respectfully submit that no basis in fact or theory exists to support this statement.

Earlier this year, the United States Supreme Court issued an unanimous decision in KSR v. Telefex, 550 US , 127 S.CT. 1727 (2007) concerning the issue of obviousness as applied to patent claims. The Court clearly stated that the Federal Circuit's application of the "teaching, suggestion, motivation" test had been "too rigid." The Court held that a person of ordinary skill is also a person of ordinary creativity. The Court reasoned that a person of ordinary skill has "common sense" and could find motivation implicitly in the prior art. The Court further held that the reasoned rationale for holding a patent obvious still must be

set forth.

The inherency must be "necessarily present" and not merely sometimes, occasionally, or possible present. The examiner must supply a rationale for the inherent disclosure or evidence demonstrating the presence of inherency. Inherency is a factual issue, and as part of an invalidity determination, must be proven by clean and convincing evidence.

Appellants respectfully submit that the Examiner has failed to establish any basis to support his conclusion of inherency.

Nowhere does Lam disclose the combination of symmetrically shaped silica particles and carbon particles.

Nowhere does Lam disclose or suggest that the secondary layer comprises 20% to 35%, by weight, of symmetrically shaped silica particles, based on the total weight of the friction modifying particles.

Nowhere does Lam disclose or suggest that the secondary layer comprises 65% to 80%, by weight, carbon particles, based on the total weight of the friction modifying particles.

The Federal Court has set out the standard for anticipation rejections under section 102.:

A determination that a claim is invalid as being anticipated or lacking novelty under 35 U.S.C. §102 requires a finding that "each and every limitations is found

either expressly in a single prior art reference." Oakley, Inc. v. Sunglass Hut Int'l, 316 F.3d 1331, 1339, 65 USPQ2d 1321, 1325 (Fed.Cir. 2003)(citation omitted).

Every element of the claimed invention must be literally present arranged as in the claims". Richardson v. Suzuki Motor Co., 868 F2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed.Cir. 1989).

There must be no difference between the claimed invention and the reference disclosure, as viewed by a person having ordinary skill in the art. Scripps Clinic & Research Foundation v. Genentech, Inc. , 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed.Cir. 1991).

Of utmost importance is the reliance upon the facts and not conclusory assertions to establish obviousness. Assumptions about knowledge in the art cannot substitute for evidence thereof.

Applicants respectfully submit that their specification is the only source of support for the claimed arrangement of method steps or programmed system.

Clearly, Lam does not disclose that the geometrically symmetrically shaped silica friction modifying particles have a substantially flat disc shape.

The Examiner then states that the shape limitation is deemed to be inherent to the friction modifying particles.

Appellants respectfully submit that no basis in fact or theory exists to support this statement.

The inherency must be "necessarily present" and not merely sometimes, occasionally, or possible present. The examiner must supply a rationale for the inherent disclosure or evidence demonstrating the presence of the inherency. Inherency is a factual issue and, as part of an invalidity determination, must be proven by clean and convincing evidence.

Appellants respectfully submit that the Examiner has failed to establish any basis to support his conclusion of inherency.

Nowhere does Lam disclose the combination of symmetrically shaped silica particles and carbon particles.

Not only has the Examiner failed to make out a case of anticipation, but the Examiner also has failed to establish a case of *prima facie* obviousness.

Appellants respectfully submit that no basis in fact or theory exists to support the Examiner's rejection. Lam is deficient.

The Examiner's position attempts to add to Lam what is not there.

IV. CONCLUSION

Appellants' claims comply with the enablement requirement of 35 U.S.C. 112, first paragraph.

Figures 1a, 1b, 2b, 2c, 2d, and pages 18 and 19 of the specification disclose geometrically symmetrically shaped particles suitable for the purpose of

practicing the claimed invention.

Appellants specification clearly is enabling for the claimed particles.

Claims 1 – 3, 7 – 10, 12 – 17 and 28 are patentably distinct in the recitation of the secondary layer comprising about 20% to about 35%, by weight, of symmetrically shaped silica particles, or about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle.

Nowhere odes Lam disclose or suggest this.

The Examiner states that the shape limitation is deemed to be inherent to the friction modifying particles.

Applicants respectfully submit that no basis in fact or theory exists to support this statement.

The inherency must be "necessarily present" and not merely sometimes, occasionally, or possible present. The examiner must supply a rationale for the inherent disclosure or evidence demonstrating the presence of inherency. Inherency is a factual issue, and as part of an invalidity determination, must be proven by clean and convincing evidence.

Inherency is a factual issue, and as part of an invalidity determination, must be proven by clean and convincing evidence. The Examiner has failed to establish any basis to support his conclusion of inherency.

In view of the foregoing, Appellants respectfully request that The Board

reverse the Examiner's rejection. Issuance of a patent on this application therefore is respectfully requested.

Respectfully submitted,

EMCH, SCHAFFER, SCHAUB
& PORCELLO CO., L.P.A.

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OIPE 1621
OCT 26 2007
PATENT & TRADEMARK OFFICE

CLAIMS INDEX

1. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises a mixture of carbon particles and symmetrically shaped silica particles, the carbon and silica friction modifying particles being present at about 0.2 to about 80%, by weight, based on the weight of the primary layer material, and

wherein the secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, and about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particles.

2. The friction material of claim 1, wherein the primary layer material comprises fabric materials, woven and/or nonwoven materials.

3. The friction material of claim 2, wherein the primary layer material has a

surface smoothness in the range of from about 0.02 mm Ra to about 0.2 mm Ra which smooth surface provides the friction material with consistent anti-shudder and coefficient of friction characteristics.

7. The friction material of claim 1, wherein the friction modifying particles cover about 3% to about 90% of the surface area of the primary layer material.

8. The friction material of claim 1, wherein the friction modifying particles substantially cover the outer surface area of the primary layer material.

9. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises a mixture of symmetrically shaped diatomaceous earth particles and fully carbonized carbon particles or partially carbonized carbon particles, and mixtures thereof, and

wherein the secondary layer comprises about 20% to about 35%, by weight, of the symmetrically shaped particles, and about 65% to about 80% by weight of the carbon particles, based on the total weight of the friction modifying

particles.

10. The friction material of claim 1, wherein the friction modifying particles comprises about 0.2% to about 50%, by weight, of friction modifying particles, based on the weight of the primary layer material.

12. The friction material of claim 1, wherein the friction modifying particle size ranges from about 0.05 to about 20 microns.

13. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises about 20 to 35%, by weight, of symmetrically shaped particles, based on the total weight of the friction modifying particles, and

wherein the friction modifying particles comprises symmetrically shaped diatomaceous earth.

14. The friction material of claim 1, impregnated with a phenolic resin or a

modified phenolic resin.

15. The friction material of claim 14, wherein the friction material comprises about 40 to about 120% resin, by weight.

16. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises 20% to 35%, by weight, of symmetrically shaped particles, based on the total weight of the friction modifying particles, and

wherein the friction material is impregnated with a mixture of a phenolic resin and a silicone resin wherein the amount of silicone resin in the mixture ranges from approximately 5 to approximately 80%, by weight, based on the weight of the mixture, and optionally, wherein the phenolic resin is present in a solvent material and the silicone resin is present in a solvent material which is compatible with the solvent material of the phenolic resin.

17. The friction material of claim 14, wherein the modified phenolic resin

comprises an epoxy phenolic resin.

28. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying silica particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises about 20% to about 35% by weight, of symmetrically shaped silica particles, based on the total weight of the friction modifying particles, and

wherein the geometrically symmetrically shaped friction modifying silica particles have a substantially flat disc shape.

EVIDENCE APPENDIX

No evidence has been entered and relied upon in appeal.

RELATED PROCEEDINGS INDEX

No decision has been rendered by a court or the Board in any proceedings in related appeals and interferences.